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TRAP SYSTEMS AMONG THE MONTAGNAIS-NASKAPI INDIANS OF LABRADOR PENINSULA

BY

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Dedicated to Gerhard Lindblom who has contributed so much towards an understanding of the cultural importance of traps and trapping methods.

I. INTRODUCTION.

1. This paper is a partial result of my field work on economics and law of the Northeastern Algonkians which I undertook during the summer of 1935 on behalf of Columbia University. I must confess that it was a real pleasure for me to trace the technique of traps with such a markedly hunting people as the Montagnais-Naskapi, and to build traps myself. Since traps and trapping are of great importance to the economy of these tribes I considered it my task, in accordance with my instructions, to pay them particular attention, even if I did not have a special personal interest in this branch of the technology of the Indians. The traps reproduced here represent various systems and they were built by my Indian friends and by myself in the original size and set in the woods, but they were later destroyed. A few snares were left in order to catch rabbits and partridges for our meals.

It was not a simple task to find trap builders among the Indians, for nowadays they use only steel traps supplied by the Hudson's Bay Company, and no longer wooden traps. Their snares, too, consist now of wire, while formerly they were made out of spruce root, moose hide or caribou hide. The younger generation no longer knows the old trap technique, but I was fortunate enough to find some trap experts among the older Indians. The trap systems here described are to be found, according to the information given to me, in the territories of the Lake St. John band, the Mistassini, Nichikun, Ruperts House, Bersimis, Waswanipi and Têtes de Boule. However,

I was unable to ascertain whether certain bands preferred certain traps in former times, which specific trap systems formerly were the most numerous and whether, finally, there were migrations of certain trap systems among the bands. If this could be established at all at the present time, it would require a much more thorough study than I was able to undertake. Apart from numerous occasional informants, the following of my Indian friends assisted me particularly in the building of traps and in instructing me: Joe Ka'kwa, Tommy Moar, Maggy Moar, Johnny Connelly and the manager of the Hudson's Bay Company trading post at Chibougamau, Sandy Ritchie.

2. As far as I know, Otis T. Mason[1] was the first one to consider the problem of American traps as a whole in a brief treatise. He defines the trap as follows: "A trap is an invention for the purpose of inducing animals to commit incarceration, self arrest, or suicide." In his definition he states that "the action of the trap itself is also frequently assisted by the hunter out of sight... he releases the pent-up force of gravity, of elasticity". Hence he includes, apart from many other hunting methods, all trap-like catching methods and thus his definition does not state clearly what a trap really means. Those familiar with technology, especially with this branch of material culture, know how often misleading and unsatisfactory results are gained from literature and from museums. One is inclined to exclaim: "What cannot be defined is deemed merely a trap."

In my book on the trap systems of the primitives[2] I attempted for the first time to render a genesis of the various trap systems applied by primitive people and to establish clearly the concept of the trap. Only by a test based on the dynamic principle various trap systems can fully be presented and classified chronologically with fair accuracy.[3] It will hardly be disputed that a great number of hunting methods cannot be considered as traps. These include the arrow, released by human hands, the harpoon, the spear, the lasso, the bola, the butterfly net, the snare, thrown by hand. The problem becomes more difficult in regard to various other catching methods, which come much closer to a catch in a trap and which often are considered as traps. Not traps, but only trap-like catching methods are the different variations of the catch with a net. Thus the quails and other birds were

hunted in Egypt from the time of Haremheb to the present day by spreading out a weighted net over the field into which the Fellahs drive the birds. It is only due to this cooperation of man that the quail runs into the net where it gets entangled and caught.[4] With nets set up perpendicularly, the Dyak catch deer,[5] the Washamba catch antelopes and gazelles[6] and the Eskimo of the Bering Straits rabbits;[7] and this is always done by driving the animals into the nets and killing them.[8] Another method is that of obstructing the track of flight of many birds by nets. If a flock of birds arrives in the twilight the net is dropped on them before they can free themselves. In this way the Siberians catch the geese,[9] while the Eskimos on the Yukon catch the white partridge with simple salmon nets.[10] The driving principle is applied similarly by the prairie tribes of North America in hunting the buffalo, the herds being driven along two converging fences towards a bluff, where they are caught.[11] Certain bird catching methods likewise do not deserve to be classified as traps. The bird catcher attracts the victims by whistling[12] and by decoys and, hidden behind a bush, he releases with his own hands the mechanism of containers, cages or nets.[13] It is more difficult however to decide whether another group of catching tools are to be considered as traps, to wit: pot-like instruments (reusenartige Einrichtungen) similar in type to those used in catching fish into which an animal is driven. These tools, too, resume the constant cooperation of man, which indicates that this group cannot be classified as traps.[14]

These examples of trap-like catching methods, to which many more could be added show the difference between such catching methods and real traps. One of the main tests of the trap is that the release, leading to the effect, is not actuated by man, and that the collaboration of man does not exceed mere preparation. With the above mentioned methods no success is achieved without the constant presence of man; he throws the net, or he uses it for the momentary retention of the animal. It is he who prevents its escape, not the catching instrument as such. Thus a further test of the trap is the complete detachment of man and the achievement of success during his absence. The success, however, consists in the permanent retention or the instant killing of the animal. Hence a kind of a foot hook, used by the Winnebago,[15] wich consists of a pointed stick wedged into the ground where a game track runs

through bushes, for the purpose of goring the animal while passing, cannot be considered as a trap, unless the success consists in more than merely wounding the animal.[16]

Accordingly all catching methods involving human activity beyond mere preparatory work, where the release mechanism is actuated by man and the success of which does not consist in the permanent retention or the killing of the animal, are, negatively defined, n o t traps. A positive definition of a trap thus would read as follows:

An apparatus, the mechanism of wich is released by the object to be caught without the aid of man and with instant success consisting in the permanent retention or the killing of the animal.

Doubtlessly the first efforts of primitive man to catch a wild animal consisted in hiding near the game track and shooting a passing animal, or throwing at it or clubbing it. This required a great amount of patience on the part of the hunter. Days may have passed before an animal approached sufficiently close. Hence primitive man came to the idea of replacing by mechanical means the human activities of waiting, of release and of attack, and which enabled him further not only to stay at home but to watch several game tracks at the same time. The main difficulty was to find a substitute for the human force, i. e. the hand, by an object which could be easily released and thus be made effective. By a clever construction he forced the animal itself to actuate the release at the moment of the greatest possibility of success, and thus had the animal act as his own eye, so to speak. The mechanical principles of human activity are thereby replaced by weight or the motive force of the animal (pit traps, snares, nets and fish-pot-like-traps), by the gravity of a tree or a stone (gravity traps), by the elasticity of a branch or of a string (springing pole traps with pressure or pull principle, bow traps, cross-bow traps) or by the force of torsion of a string or of a spring (torsion traps).

Thus the application of mechanical principles as a test result in five sharply defined systems, which in turn are subdivided within themselves into various sub-groups.[17] These five systems are:

a) Trap-like catching methods
b) Gravity traps
c) Snare traps
d) Springing pole traps
e) Torsion traps.

The invention of the trap was one of the most important inventions of mankind and it exceeds by far in importance the invention of the wheel. For the first time man had invented a machine which was a substitute for himself and for his work. The efforts thus spared could be used for other matters. He had constructed his first robot, his first slave, and it is curious to see how even our modern automats can be traced finally to the ancient trap technique of primitive peoples. A whole branch of our modern technic is fundamentally related to the refined principles of the various trap systems of the primitive peoples.

II. TRAP SYSTEMS AMONG THE MONTAGNAIS-NASKAPI INDIANS.

1. *Trap-like Catching Methods.*

Of the trap-like catching methods of these Indians there is to be mentioned in the first place the simple snare, used by hand (fig. 1). As shown clearly by the drawing, a smoothly gliding snare is fastened on a branch about seven feet high. This snare is used most commonly for catching partridge birds but also to catch the lynx or even a young bear which one does not want to shoot. More rarely even fishes are caught by this kind of hand snares.

The Indian uses simple fishing nets in order to catch partridges, ducks and loons (fig. 2). Occasionally he also makes smaller nets especially for this kind of bird catching; as a rule, however, he uses the available fishing nets. Such a net is from 60 to 100 feet long. It is set doubly, in order to give it double width. By means of connecting knots, affixed at short intervals, both parts of the net are attached at their strong longitudinal strings. When the net has been prepared in this manner, a number of poles are set up on both sides, corresponding to its length, which serve as supporting poles. These poles are about five feet high. Between them the net is spread out piece for piece and is held up carefully in order to attach it to the poles. This is done by cutting notches in the bark of the poles and by connecting the respective part of the net with the notch either by pulling a thin strip of caribou leather through the net and the notch or by simply pressing a part of the net into the notch without tying it thereto (fig. 2 a). Near these points of suspension, small stones,

suspended from thin leather strings, are attached to the net, in order that it, being released, can fall more quickly and perpendicularly to the ground. The catcher hides about 50 to 60 feet from the net and holds the end strings in his hands. Gravel sand is spread out below the net as a bait for the birds which are accustomed to take some of it before their morning meal to facilitate digestion.

As soon as enough partridges have gathered below the net, the catcher pulls the strings. The net pulls on the suspension strings which run through the notches of the poles. So it falls to the ground, weighted by the stones, and catches the partridges. At times the catcher gets from 50 to 60 birds at one time. Often he kills the crying and resisting birds by stamping upon the net whith his snow-shoes.

Another kind of release is applied occasionally in case of heavy snow. In that case the net is fixed tightly to the poles set up in the snow which are turned over upon release.

The beaver is caught by various trap constructions, as will be shown. As a trap-like catching method, the Indian uses under certain conditions the net-bag shown in fig. 3. If the hunter discovers a beaver house along a small water course and if it is winter time and the river frozen, he decides to catch the animal with a net. But the river must be very shallow at one end and deep in the direction of the beaver dam. For if the beaver is to be scared from his house, the possibility of his escape to the shallow side of the river, completely obstructed by ice, must be eliminated. The beaver net is set up on two poles under the ice at a narrow section of the river. To the right and left of the net towards the shore line wooden poles are set up in order to prevent the beaver from avoiding the net. The net itself consists, as shown by the drawing, of a strong net-bag* about 1—1,5 yards long. Its opening is placed towards the beaver house and opposite to the beaver dam. Two posts keep the front of the net open in such a way that the lower fringe is placed on the bottom of the river. The net is kept open by four threads which, at four places, are strung through notches in the two poles as in fig. 2 a. A small signal stick runs from the lower middle of the open net to the lower fringe of the ice. This stick is pushed

* Made out of strings of the "Holland twine No. 3", sold by the Hudson's Bay Company.

off its place by the beaver when he enters the net-bag and indicates to the hunter that the time has come to close the net. The two catching strings run through a sinker, consisting of a metal ring (today often a wedding ring). The Indian, kneeling on the ice above the net, holds the two catching strings. As soon as the signal stick indicates that the beaver has entered the net he pulls them with a quick jerk. Thus the holding strings glide from the notches, and the net-bag is closed. First it is necessary, however, that the hunter's assistant destroys the beaver-house. Since, in one direction, the beaver finds only shallow water, frozen down to the bottom, where he can neither swim nor breathe, he can escape only in the other direction and there the net is spread. As soon as the hunter has the beaver in the net he pulls the bag up from the ice, lest the animal gnaw his way out. He throws the net with the beaver into the deep snow and kills the helpless fellow by an axe-blow between the shoulder blades.

Fig. 4. and fig. 4 a show a method to catch Whisky Jack, the popular pet-bird. This method is popular with women and children. Three or four posts are stuck into the ground in such a way as to support two snow-shoes facing each other on the oblique. A string is attached to one of them above the middle hole, leading through the middle hole of the other snow shoe and terminating in the hands of the bird-catcher who is hidden not far away. A stick carrying a bait is set into the weave of the snow-shoes. When a Whisky Jack arrives he sits on the stick in order to pick on the bait. The bird-catcher pulls the string and squeezes the bird between the two snow shoes in such a way that ha cannot escape, but without hurting him. The two holes in the snow-shoes are filled with leaves and grass to prevent the escape of the bird. Whisky Jack is rarely eaten, mostly he is tamed.

All these catching-methods are not true traps in the sense of our definition, as the effect can not take place without the presence of man. The following ways of getting animals, however, are real trap systems.

2. *Gravity Traps.*[18]

The motive power of the gravity trap is either the weight of the animal or the gravity of a falling object released by the animal. The

only gravity trap of the first type is the pit-trap. According to my information the Indians do not know the catch with pit-traps. Time and again I asked various informants on this point, because it appeared improbable to me that precisely this type of trap should be unknown. The climate cannot be held responsible for the absence of such traps, as the pit-trap's special technical development took place particularly in North Eastern Siberia.[19] But, as mentioned, the information was negative. The principle of the pit-trap is known to the Indians, but it came — as indicated by its application — to them probably through the white man. In the wooden houses at the reservations, but not in the woods, the Indians use a pit-trap for catching mice. On an old brass or tin pail partly filled with water (often strongly salted) they put a cone-shaped board, about twelve inches long, which is kept in equilibrium. This board is covered in the center with flour or grain. When the mouse steps on it, the animal's own weight puts the board off balance and the mouse falls in the water from which it cannot escape due to the smoothness of the pail. Thereafter the board returns to its balanced position and is ready to dispatch by the same process the next mouse into the water.

Instead of the animal's own weight releasing the trap the group of traps now under consideration uses as motive principle the gravity of a log or of a combination of heavy objects, released by the animal itself. The height of the fall, artificially increased, rests on the experience that falling logs create a force which increases in proportion to the height of the fall. This utilization of gravity requires certain techniques not only in the construction of the trap-holder but also concerning the release mechanism.

Fig. 5 and fig. 6 show a marten and mink trap before and after its release. It is a gravity trap of simple construction, and many are set near animal tracks in the vicinity of lakes and rivers. Commonly an appropriate living tree is choosen as hind-end of the trap or, instead, a large plug is stuck in the ground. Starting from this tree, two rows of plugs, stuck in the ground, extend, diverging outwardly. The depth of the trap amounts to about twelve inches, the front opening is about nine to ten inches wide. A single plug is fixed in the ground in front of the trap, about in the center (v), to prevent the dislocation of the base and to give the desired direction of fall to the striking beam together with the end-plugs of the trap. In order to prevent

the striking beam from the sinking into the moist ground it is supported by a wooden plug underneath; otherwise the height of the fall might be diminished too much and thus the effectiveness of the trap would be impaired. Other logs may be put on the striking beam in order to increase the striking force. The traps is set by fixing a holding board of about three inches in length between the base and the striking beam so that the weight of *n* rests on *b*. Either at the lower or the upper end of *b*, hence either between *b* and the support or *b* and the beam, a bait stick, *c*, of about eleven inches long is inserted. At its one end *c* carries the bait, mostly a piece of dried fish; the other end, inserted at *b*, is flattened in order to achieve the release of the trap even if the animal should pull only slightly at the bait. Until now I had always believed that the effectiveness of such a trap would be very limited, since it requires a great amount power to release the trap. This is not the case, however, since the base *m* consists of a smooth tree trunk and a slight touch at *c* moves the center of gravity and releases the trap — but only if the weight is not too great. After the trap is set, it is covered with branches to make it invisible. The release takes place when the animal, attracted by the smell of the bait, climbs into the trap and begins to pull at the bait stick *c*. The noise of the released trap causes the animal to retract slightly so that it is generally crushed to death, its breast being pressed between the striking beam and the base.

This trap is set from the middle of November until the end of March. The best place for setting it is either in the proximity of green trees where there are squirrels which the marten hunts or in the proximity of decoying tree trunks where the mink and marten go for mice. Traps of the same kind, only somewhat larger, are used for catching the wolverine.

The traps shown in fig. 7 to fig. 11 work with the same mechanical principle of gravity; only the release mechanism is technically more developed and the height of fall is extended. The technical appliances are perfected in two respects, namely, by improving the carrier of the striking force and the release mechanism. The extension of the height of the fall resulted in a further development of the holder, since the simple board could not be released effectively any longer if the weight became too heavy. The weight had to be diminished by leverage transmission from the holding apparatus to the release mechanism.

Thus this group of traps is distinguished by a special development of the release mechanism. By means of leverage transmission only a very small part of the weight is transmitted to the release stick — to diminish it still further is the feature of the release construction of the gravity traps which shall now be considered.

Fig. 7 shows a bear trap. Its height is five feet, its width two feet ands its depth four feet. It is not set on the game track but at its side, often in groups of several, along the shore of a lake. The trap consists of the four posts of the holding apparatus, which have been smoothed carefully on the inside, in order to guide the striking beam (n) along the right track. The weight of n rests on the holder (b), a lateral board which rests on two plugs stuck in the ground behind the four posts of the gliding track of the striking beam. c serves as a lever which rests on b and on which presses the weight of the striking beam (n). The other end of c reaches into the nose of c_1 and stretches the release stick d. A small fence, about four feet deep, is built around the trap.

The release mechanism is shown clearly in fig. 7 *a*. It consists of four different pieces: c, c_1, d and x. x is either a prop stuck into the ground or a grown root, artificially notched. The release stick (d), notched at both ends, reaches into the notch of x; at its lower end it carries the bait (skin of bacon or dried fish), tied to it with a pine root. The upper notch of d rests in the notch of c_1. When the trap is set the two-armed lever (c) pushes against the nose of c_1 and forces the release stick d tightly into the notches of x and c_1. When the bear enters the trap and tries to gnaw at the bait he pulls either the lower notch at d from x or he pushes the upper notch (d) from c_1. In either case c and c_1 loose their support, the trap is released and becomes effective. A good gliding of the various notches of the release stick (d) is particularly important because otherwise it might happen that the bear, when he loosened d from x, may be lifted for instance by the lever (c) and thus be freed. How closely the Indians watched the habits of the animal to be caught may be seen also here by the fact that the crossed boards (y, fig. 7) are fixed in the ground about half a foot away from the base of the trap. This is done to prevent the bear from backing out if warned by the noise of the release mechanism. The weights placed on the striking beam correspond to the size of the animal.

Figs. 9 to 11 also show the construction of a bear trap, which, too, is set on the side of the track. This trap measures three feet in height and two feet in width. Also here a lower base consisting of two tree-trunks is laid down between two posts which serve as gliding track for the striking beam (*n*). A strong post, the holder (*b*), is stuck into the ground immediately next to the left first hindpost. The lever (*c*) is placed between the striking beam and the holder, it is notched at one end and carries the noose c_1, consisting of spruce root. In turn c_1 reaches into the single-pointed and well smoothed board *x*, which, in order to stick it as firmly as possible into the ground, is usually squeezed through the root of a tree and at times its hind-end is wedged with wooden plugs (Fig. 10). The bait (*d*) consists of birch bark and has the form of a package. Within it as well as on its top the baiting food is placed, which may be dried fish, meat or skin of bacon or syrup for it is well known that the bear likes sweets. This bait is secured doubly because otherwise squirrels or other small animals might eat the outer bait and thus render the trap ineffective. On account of the scent the baiting package is tied together with spruce root. The holding string of the bait package is fastened to *x* in such a way that pulling on the bait drags the snare c_1 from *x* and thus releases the trap; for the two-armed lever *c* is pushed down by the weight of the striking beam and looses its equilibrium. The lateral board *r* (fig. 9) carries the disguising cover. Four branches are laid out on the ground around the bait, the ends of which rest obliquely on *r*. These branches are covered, in so far as they are above the bait and the release mechanism, not by bush wood, but by birch bark in order to protect the mechanism and the bait from humidity. The other parts of the trap are disguised by branches; and all points of the base as well as the various posts are covered with moss and soil. Fig. 9 a and fig. 10 show clearly the mechanism of the release. Also in front of this trap two crossed sticks are stuck into the ground about a foot's distance in order to prevent the bear from retracting after the release of the trap.

A construction of a release mechanism seldom found with gravity traps is shown by the two trap types in figs. 12/13 and 14/15. Here the effectiveness and ease of the release have been increased tremendously by the development into a frame of the release stick (fig. 12) and by the application of a platform (fig. 14). This type of release

mechanism is customary for gravity traps only with the box traps of Sumatra[20] and the antelope traps of the Makonde plateau[21] — otherwise, only with the springing pole traps which represent a different principle of motor mechanism.[22]

The otter and beaver trap (figs. 12 and 13) is set in the woods between two lakes on the game track made by beavers in draging along small trees for food and house building. A young poplar tree or some poplar branches are set up in front and in the back of the trap; the poplar is preferred because the beaver eats its bark. Only when he is unable to get poplars will he resort to birches of which he gnaws the soft layer between the wood and the bark.

This trap is set as soon as the soil is no longer frozen but while the snow is still on the ground, hence in April or May or at the end of September or the beginning of October. The trap consists of the four posts of the frame which are smoothed out carefully to ensure a good glide of the striking beam. These posts are tied together at the upper end with spruce root, used here for the same reasons as with the other traps, to wit, in order not to scare the animal away by the scent of artificial binding materials. The holding board (*b*) rests on the connection. The release mechanism is constructed separately. The sticks *e* and *f* are stuck into the ground, leaning obliquely backwards towards the trap, so that their upper ends lead through *b* and *n*. In setting the trap the striking beam (*n*) is held up by a string (*c*) made out of spruce root which in turn is laid around the lever (c_1). c_1 acts as a two-armed lever, with a very short lever arm which is pulled by the weight of the striking beam — and a long lever arm the end of which pushes against the release stick *(d)*.

By this pressure *d* is pushed against *(e)* and *(f)*. Here, too, care is taken that *d* can glide well on *e* and *f*. The striking beam is weighted by further logs. In order to ensure effectiveness, there is a wooden base in the form of a smooth trunk, resting between the holding posts at the spot where the striking beam must fall down. With a kind of irony the Indians call it the 'pillow case'. The whole trap, except its entrance, is covered with brushwood. It does not need a bait.

According to whether an otter or a beaver is to be caught, the distance of the release stick (*d*) is changed, and thus also of the release mechanism from the base (*m*) of the trap. This distance is much

less with the other trap than with the beaver trap, for the otter runs quicker and likes to jump while the beaver proceeds upon his track more leisurely, using his fore-paws. Here too the extraordinary knowledge of the Indians in observing the habits of the game is obvious.

When the little stick *d* is moved down, the trap is released; c_1 becomes free and the weight of the striking beam (*n*) falls with great force against the base (*m*). The captured animal usually is squeezed around the breast.

The bear trap shown in fig. 14 and fig. 15 is in principle nearly the same as the beaver trap of the figs. 12 and 13. Only the release stick (*d*) increases its effectiveness by adding a little platform of two or three thin little boards to *d*. Here a bait is used which is fastened to a stick and stuck into the ground behind the trap. The bait is the same as in fig. 9, and the trap is disguised in the same way as shown for fig. 9. When the bear enters the trap he pushes on the platform (d_1); thus *d* falls from the level c_1 and the trap is released. This trap must be set in such a way that a squirrel, a mink or any other small animal does not release it in passing, because these animals would not be caught. But the trapper has to take this possible misfortune into consideration. The effectiveness of this trap is exceptional because the platform construction releases the trap even if the bear does not approach it on account of hunger but from mere curiosity and if he simply steps on the platform to enjoy the smell of the bait.

3. *Snare Traps.*

The mechanical principle of the snare is that of a real trap. The result is achieved by the movements of the animal. The release and the power principle of the simple snare is the movement of the animal itself; hence the setting of the snare and the type of attachment is guided thereby. Mostly it is set on a vertical plain because the hunter is intent to utilize the foreward movements of the animal. It is always based on the type of animal to be caught and here again the Indian proves an exceptionally keen observer. Thus otters and beavers are never caught in snares, because they can withdraw their short heavy-set head from the snare due to their very smooth fur. But, because the most sensitive spot of nearly all the other animals is at the neck, the snare is set on the game track in such a way that the

head of the animal must pass through it and have its neck enclosed by the snare like a lasso. The difficulty of the application depends on the type of the animal. Easy gliding and elasticity is one of the main pre-requisites of the snare.

With simple snares such as shown in fig. 16 the Indian catches partridges as well as rabbits and lynxes. He fastens the snare to a downward-bent live branch or he uses, as shown in fig. 16, a tree-fork on which the snare is fastened. It is kept open by small bent branches and is blocked underneath by small branches stuck into the ground. The effectiveness of such traps is exceptional. During my presence an Indian friend set seven rabbit snares for his family consisting of five members, and during two weeks he caught not less than at least four animals daily (rabbits or partridges). It is a disadvantage of the simple snare trap that it must be checked up at least once daily, otherwise the captured animals are partly or wholly devored by small rodents. Another disadvantage, for the Indians as well as others, is the fact that the caught animal faces a slow death. This is particularly true of the wire snare; not so much with the leather or root snare, formerly used. It is strangling itself to death.

Both these disadvantages are avoided by another trap system used by the Indians, the Snare Gravity Traps.[23] Fig. 17 shows a trap of this type. Here the success is not dependent on gravity but is merely furthered by it. It is characteristic of this construction that the snare alone could be sufficient to achieve success, even without the collaboration of the gravity principle. The gravity is released only by the animal, when caught in the snare. Thus the snare and the gravity principle are combined, as relay stations so to speak, and they are released one after the other.

The bear trap of fig. 17 is constructed as follows: At the end of a large tree-trunk (n) weighted with heavy stones, which rests on the tree-fork x in such a manner that it acts as a lever with unequal arms, a snare (d) is attached. The lever arm on which the snare string is attached is always the shorter one, although it had to be altered on the drawing for the sake of clearty. Formerly the snare consisted of moose or caribou hide, nowadays of strong wire. The trap is set in the same season as the other bear traps, at the side of a game track. The release mechanism is extremely ingenious and simple. The holding frame consists of two posts about two and a half feet high, to

which is tied with spruce root the center piece *b* as a holder, hence the width of the trap amounts to about two feet. The snare is set by combining the end of the holding string with the snare string in a knot, so that the snare is stretched by a pull from *n*. Figs. 18 B—D indicate the exact construction of the snare, the holding string and the knot. In order to assure a good opening of the snare a small stick of fresh wood is stuck into the ground to the left and to the right, and at two spots its bark is partly stripped, thus making small supports, through which are led the holding strings of spruce root for keeping the snare open (Fig. 18 A). The trap is disguised and covered with brush. The bear is attracted by little staves, set up around the trap which are covered with syrup or other baits. When he sticks his head through the snare construction, the snare is parted by the pull in such a way that the knot of the holding string *c* has no more resistance and the trunk *n* shoots upwards. The snare is pulled together sharply by the weight of *n* and the bear is caught.

Traps of the same construction serve for capturing foxes, but they are of smaller size. For the lynx a small covered fence is arranged behind the snare with a bait, similarly as with the mink and marten trap. Owls, too, are caught mostly in the same way — for them the bait consists of a piece of rabbit skin laid down in the fence behind the trap. Even for rabbits this snare gravity trap is used, but of course on a smaller scale.

Another sub-division of the snare traps are the "Reusenfallen".[24] I have not seen such a trap with the Indians but it has been described to me, as a trap for smaller animals, as follows: In former times a "reusenähnliche" trap was made in the natural cavities of trees, by means of horn or bone splits and today with nails. The animal could enter easily enough but it could not get out again. Scents were used as bait, and in modern times even perfume which attracts the marten. This type of a trap was never made artificially but always in the natural holes of trees. The frequency of this trap is not very great.

4. Springing Pole Traps.[25]

The mechanical principle of the springing pole trap is the inertia (elasticity) of the material used as a spring (a tree or a living branch) which seeks to return to its equilibrium. The Indians use this trap system very rarely and only for the lynx, the fox and the rabbit. The

resason for its rare use may be found in the climate, because in winter time the live springing pole is exposed to the danger of freezing and may thus be deprived of its elasticity and effectiveness. The Indians never capture larger animals with springing pole traps. They informed me, however, that not they but the white trappers do capture caribou and even moose in immense springing pole traps. The springing pole traps which came to my attention show that the release mechanism, down to the last detail, was taken over from the gravity snare trap ond that none showed the specific release mechanism of typical springing pole traps. This is an indication that this trap system is of more recent origin and has not been accepted by the culture.

The rabbit trap in fig. 20 (and 21) is set in the proximity of rabbit holes throughout the whole year. The springing pole *(x)* carries at its one end the holding string *(c)* and the snare string *(d)*, which again are combined in a sling (cf. fig. 19 *b—d)* in such a way that the trap is set. The holder (*b*) consists of a bent branch, both ends of which are stuck into the ground. The snare is kept open in the usual manner by bent springs. The trap is disguised with brush. If a rabbit runs into the snare the trap is released by the foreward movements of the animal and is projected upwards by the elasticity of the springing pole and strangulated.

Fig. 22 also represents a springing pole trap. It is used for the capture of the Whisky Jack and is built and set exclusively by women and children. In order to get acquainted with its construction I had to ask an old woman, because my male trap experts could not handle it. In considering the trap-like catching method for capturing the Whisky Jack (cf. figs. 4 and 5) it was stated previously that this nice bird is hunted by women and children in order to tame it as a pet. It is a jolly, intelligent bird with white stripes around its neck.

The trap is built in the following way. A branch, about seven feet long, is stuck into the ground and the snare string of brass wire or thread is attached to the top end. A hole is bored through the upper third of the branch, through which the snare and the snare thread are led, such as shown in figs 22 and 23. The release stick (*c*) then is pressed into the hole so that the snare string cannot glide through the resistance of *c*, thus leaving the snare open. A bait is placed at the end of *c*. When the Whisky Jack arrives he sits on *c* and pulls at the bait. Due to the weight of the bird and the pulling at the bait, *c* falls

down, the snare (*d*) is contracted by the force of the elastic branch, the feet of the bird are pressed against the branch and thus it is captured. The cries and the flutterings of the bird soon indicate to the bird-catcher that he has been successful.

5. Steel Traps.

Nowadays the Indians hardly ever use wooden traps. The old types of wooden traps have been replaced entirely by the modern steel traps which the Indians buy in great quantities from the Hudson's Bay Company. Even the expression "trap" is used only for steel traps while other traps are expressly called w o o d e n traps.

These steel traps are graded and are sold in sizes ranging from zero to four. The bear trap, not included in these grades, has, in addition to the two springs, indented steel hooks, in order to prevent the escape of the bear. The trap sizes, numbers zero and one, have only one spring, while sjzes number two, three and four and the bear trap have two of them. Sizes zero and one are used for catching muskrat, mink and marten, size two for the lynx, fisher and other small animals, size three for the otter, beaver, lynx and fisher, size four only for otter and beaver. Occasionally the snow owl is captured with sizes zero or one, a bird of tasty meat. For this purpose a pole is stuck into the ice and a metal trap is affixed to the top. The owl, looking for mice on the wide and bare ice surface from a lofty observation point, flies towards the pole, sits down on the plate of the steel trap and is caught.

With the exception of the beaver and otter traps the metal traps are mostly set in a small fence which is erected around the trap, similar to that shown by fig. 5. This little trap garden is covered with brush, sustained by a supporting pole in its position. The bait is attached to a little stick behind the set trap, never on the plate of the trap. The covering of the trap fence serves not only of preventing the animal from entering the trap from behind so that it could eat the bait without being caught but also of protecting the trap from snow and rusting. The trap is fastened to a metal chain which ends in a ring. This ring bears also a little metal prop which is fixed into a tree for the attachment of the trap, or the trap is held by means of the ring which is put on a close-by pole so that the animal cannot escape with the trap.

The mechanical principle of these steel traps is that of a simple snare trap (fig. 24). But the snare is replaced by the metal chackles *a* and *b* which are pressed against each other upon release by the force of the steel spring *c*. The holding frame is the chain with ring and prop, which, if fastened, prevents the escape of the animal. The release mechanism is constructed specially. When the trap is set the hub of the platform d_1 rests in the metal piece *d*. When the animal touches the platform, *d* is set free, and the spring *c* shuts the trap.

The material of the snares, formerly made out of spruce root or caribou hide or moose hide, are bought nowadays by the Indians at the Hudson's Bay Company. The wire types, most commonly used for this purpose, are as follows: thin brass wire, for catching rabbits and partridges; middle strong cruicible steel wire, for lynx and fox; and very strong cruicible steel wire, for wolves and bears. Before being used the steel traps are burnt over a fire in order to avoid any scent which would scare the animal away.

Wooden traps must be made out of old seasoned wood, not of freshly cut one. The animal will even smell the steel of the axe, where it touched the wood while cutting, and it will avoid the trap in such a case. Even the trace of the human hand is observed by the animal and for this reason the experienced trapper wears mittens.

The introduction of steel traps fundamentally changed the economic situation of the Indians. However, the space allowed me is too limited to permit my taking this up in detail, so I must refer to my forthcoming book. Only the technique and the construction of various traps is treated here. It should be mentioned, however, that one Indian family nowadays may set as many as 450 traps, while formerly a family set up to 150 wooden traps on their hunting grounds.

For every trap the best lucky charm[26] is a small foetus of the animal to be caught, hence a rabbit foetus for catching rabbits, a beaver foetus for catching beavers, etc. The trapper's wife makes a small cloth bag, studded with beads, in which the foetus is placed, then the bag is sewed on all sides. The night before the hunter is to set the first traps he hangs this fetish outside his tent. Before leaving in the morning he puts the charm in his pocket. After having set the first trap he slowly drags the fetish back and forth, so as to render the trap effective. Thereafter he sets all the other traps but repeats the ceremony only once, that is with the last trap. Thus all his traps

are made effective. Speck writes me in this connection that the castoreum, canned in a birch-bark cylinder, is used as scent and charm in a similar way.

Only in the case of the bear is it impossible for the hunter to apply a similar charm. For the Indians contend that there never has been found a mother bear with an unborn offspring in her body — she knows when the hunter arrives and retreats; or else, the female bear quickly gives birth to her cub. I any case often a mother bear has been caught with a new-born cub at her side, but nobody has ever caught a pregnant bear.

III. THE CULTURAL-HISTORICAL POSITION OF THE DESCRIBED TRAP SYSTEMS.

The cultural-historical stratification of the trap systems of these Indians is exceptionally interesting. Apart from the steel traps, which were introduced by the white man and which superseded the other trap systems, the springing pole trap clearly emerges as a more recent element. This is attested by its sporadic and rare distribution, by the absence of the release construction otherwise customary for springing poles, by the application of the release mechanism, typical for the snare gravity trap with the springing pole and, finally, by the report that the springing pole trap is used very frequently by the white trappers but not by the Indians for catching larger animals. Also the absence of two-sided springing pole traps — erroneously termed bow-traps in the literature — and of cross-bow traps which are distributed widely in Northern Siberia for instance, supports the contention that the culture of the Montagnais-Naskapi Indians accepted traps of the springing pole principle only secondarily and unwillingly. Nevertheless I discovered children's cross-bows with them, which I intend to describe elsewhere and that showed precisely the same form as those used by the Ainu.

I have already pointed out elsewhere[27] that the catching with nets and snares is very old and that it must belong to one of the oldest cultural complexes; the same is also indicated by the present examination. From the cultural-historical point of view the groups of gravity-traps and of snare-gravity-traps are the most interesting, however. This specific system of the above described snare-gravity-trap

doubtlessly was developped in the Arctic cultural circle, and it is peculiar of that area only. The areas of its most intensive distribution are: Northern and Eastern Siberia,[28] the Bering Straits,[29] the Yukon,[30] Vancouver Island[31] and finally the territory of the Déné tribes.[32] The above-described systems of gravity-traps are even more informative with respect to the determination of their age. As already pointed out in the description of the traps shown in figs. 12—15, the release mechanism is unusual for gravity traps and appears to be of more recent age. But the release mechanism of the traps, shown in figs. 5—11, are very antique, and particularly interesting is the form of the trap in fig. 5, as a typical example of a gravity trap of simple construction. The area of distribution of this type of simple construction of a gravity trap is immense.[33] Similar constructions, apart from Bushmen's territory, have been found in the North of Europe,[34] the whole polar North of Siberia, with the Giljaks, on Sachalin, with the Amur-Tungus, the Korjaks of the Penshuisk Bay, in the North of Kamchatka, with the Russian Tungus and in the Stenowoi mountains, and, finally, in the North of America with the Kwakiutl,[35] the Tahltan,[36] the Blackfeet[37] and the Winnebago.[38]

We know, however, of a further nucleus for these trap constructions. It is the trap-drawings in the caves of the Franco-Cantabrian area, especially in the caves of Font-de-Gaume,[39] Combarelles[40] and Bernifal.[41] I have attempted to establish conclusively[42] that these "tectiforms" represent drawings of gravity-traps, especially of the type shown in our fig. 5, and moreover, that they are neither "ornaments" nor "drawings of huts". My reasoning has been accepted fully by the prehistorians.[43] Figs. 27-29 show such typical trap drawings from Font-de-Gaume, fig. 30 one from Bernifal. The interpretation, that these drawings represent cone-roofs or bee-hive huts, which has been emphasized until now in the prehistoric texts, presumes that the art of the paleolithicum knew already how to make cross-sectional drawings, which is not true. The artistic expressions of the ice-age were limited to outline sketchings. Interpreted as gravity-traps these drawing forms remain outline sketchings and they clearly indicate in their construction that they are gravity-traps of simple construction. Even the ground line, which would make no sense if these "tectiforms" were interpreted as huts, thus gets its meaning, for it represents an essential part of the trap, to wit, its base.

This is shown very clearly in fig. 29. The feet of the mammoth appear even below the ground line and thus show that this ground line does not indicate the soil but the base of the trap. Also, the accumulation of many "roof-lines" and many cross-lines is easily recognized and explained, if we proceed on the theory that they are traps, as an accumulation of many heavy objects, such as tree trunks, while the oval lines can be interpreted as the entrances to the traps. Even from the psychological point of view the interpretation of these "tectiforms" as traps is much more plausible. They occur almost invariably in connection with animal drawings and hence they must have some relation to hunting and to animals. The reason why these drawings were made mostly on the bodies of animals is probably due to trap magic. In this connection they are paralleled by the drawings of spear points on animal bodies which occur in the same cultural area. Fig. 29 in particular, indicates especially clearly the construction of the released trap; the two lines *a* signify the released release mechanism of the trap.

The discovery of the trap system shown in fig. 5 with the Montagnais-Naskapi Indians enlarges the area of diffusion of this gravity-trap considerably, even though the question of the origin of this trap is not solved thereby. It is certain, however, that this special trap construction goes back to the later paleolithicum, to the Aurignacien-Magdalénien. It would be really worth while to trace especially the diffusion of the construction of trap 5 all over the globe in order to perfect systematically my still sporadic evidence. Such a research would result in much knowledge on the migration of cultural elements, particularly as far as America is concerned. This work would involve certain problems, as for instance, the place of origin of this kind of trap. I do not assume that it was developed in paleolithic Europe and that from there it expanded to the pre-Bushman culture in Africa on the one part and to Asia and America on the other part. I believe, however, that its origin is to be found somewhere in Asia and that during the later paleolithicum it diffused as far as Spain and from there it penetrated into Africa. On the other part, in post-paleolithic times, it appears to have reached Northeastern Siberia and the West coast of America where its greatest Eastern distribution took place in Labrador. A direct transmittance of this trap system by paleolithic man to Labrador seems improbable, since no direct

connection existed between Europe during the ice-age or post-ice-age and America.[44] A further difficulty of the problem is its distribution in Africa. The proof of its existence in Northern and Central Africa must be found, possibly by carvings on the rocks of the Sahara, in order to establish the connection to its present existence in the Bushman territory. Lindblom has only recently shown[45] how useful such an examination of the distribution of the trap-systems of the primitive peoples can be for the general history of culture. He traced the distribution of the spiked wheel-trap, the existence of which I established for the later paleolithicum, through Africa and Asia — in Asia as far as the Karakorum, the Etsingol and even the Amur. Even though Lindblom hesitates for the time being to recognize my proof of the paleolithic age of this spiked wheel trap,[46] I have again become convinced of the correctness of my proof, apart from Breuil's publications from Tabel Bala,[47] particularly by the rock paintings of Fezzan[48] wich Lindblom reproduced and which were first published by Frobenius.[49] There can be no doubt that this rock painting represents a spiked wheel trap. Even the attachment of the trap by means of a string and a snare, which with this trap is laid around a post or a tree, can be seen clearly and technically free from objection, on the drawing. There is added the most realistic posture of terror of the giraffe on the left hand, confronting the trap, whereby the psychological connection is established between these two details of the drawing in a convincing manner. The view of Frobenius, according to which the drawing represents a sun or light symbol, is really absurd.

In conclusion I wish to mention a further fact which perhaps may some day become of cultural-historical interest subsequently. The Indians told me that it was very difficult to catch the wolverine particularly, also the fox with steel traps. The wolverine, the "Indian Devil", especially would destroy the steel trap and eat the bait without being caught. I had taken my trap book along and showed the pictures to the Indians. Two traps attracted their particular interest and they decided to try them out during the winter 1935—1936. They were a trap from the lower Kolyma (fig. 31),[50] the construction of which is clearly evident from the drawing, and the wolf-trap of the Yakut-Tungus (fig. 32)[51] which consists of two concentric circles of man-high poles stuck into the ground next to each other. In the outer hedge an opening is left for a door which closes inwardly. In

the inner and inaccessible circle there is placed a living bait such as a dog or a rabbit, which attracts the wolves. When the wolf approaches he enters the outer circle and it becomes impossible for him to turn back on account of the narrowness of the circular passage, he closes the door himself, and cannot escape. This trap as well as the proceeding one enables the catching of several animals at the same time. I have given to two families which live around Lake Chibougamau and on the territory of the Lake St. John band the necessary instructions for the construction of these traps which they shall try out. I am eager to have their reports. If these traps should actually find a further distribution among the Montagnais-Naskapi, then the future trap explorer who should suddenly come across these traps in Labrador need not to make long reflections over the origin and the migration of these traps — if he has read the present article.

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NOTES.

[1] *Mason, O. T.*, Traps of the Amerinds. A Study in Psychology and Invention. In: American Association for the Advancement of Science. Proceedings. 1900. Vol. 49. pp. 301—313.

[2] *Lips, J.*, Fallensysteme der Naturvölker. Leipzig 1927.

[3] *Lips, J.*, Palaeolithische Fallenzeichnungen und das ethnologische Vergleichsmaterial. In: Tagungsberichte der Deutschen Anthropologischen Gesellschaft. Leipzig 1928.

[4] *Wreszinski*, Atlas zur altaegyptischen Kulturgeschichte. 1st ed. p. 249., Pl. 33. — cf. *Frobenius, L.*, Völkerkunde. I and II. Hannover 1902. II, 264. fig. 217.; Amtliche Berichte aus den preuszischen Kunstsammlungen. XL. Berlin 1918/19. p. 166, fig. 88.

[5] *Ling Roth-Skertchly*, The Natives of Sarawak and British North Borneo. London 1896. I, p. 443.

[6] *Karasek-Eichhorn*, Beiträge zur Kenntnis d. Waschambaa. Baessler-Archiv, Berlin 1911. I. pp. 69—131. III, p. 92 — cf. *Krauss, H.*, Tierfang bei den Wasaramo. Globus, vol. 92. 1907. p. 338, fig. 7.

[7] *Nelson, E. W.*, The Eskimo about Bering Strait. Bureau of American Ethnology. 18th Ann. Rep. 1896/07. Washington 1899. I, p. 124.

[8] *Vinaccia, G.*, Les signes d'obscure signification dans l'art paléolithique. L'Anthropologie. Paris 1926. p. 42, fig. 1, p. 43, fig. 2. — Compare also the catch with nets of the emu and the kangaroo by the Queensland Australians. *Roth, W. E.*, Ethnological Studies among the North—West—Central—Queensland Aborigines. Brisbane and London 1897. p. 96 and Pl. XI, fig. 226, 228. — Further: *Brough—Smyth, R.*, The Aborigines of Victoria. I, p. 193. London 1878.

[9] *Pallas, P. S.*, Reise durch verschiedene Provinzen des russischen Reichs. 2nd part, book one, Petersburg 1773. pp. 325 sq.

[10] *Nelson*, Eskimo. p. 132. pl. II, fig. 9.

[11] *Wissler, C.*, Material Culture of the Blackfoot-Indians. Anthropological Papers of the American Museum of Natural History, V: 1. New York 1910. pp. 34 sq. with illustrations p. 35. — cf. further *Turner, L. M.*, Ethnology of the Ungava District, Hudson's Bay Territory. Bureau of American Ethnology. 11th ann. rep. 1889/1890. pp. 159—350; p. 279. This cannot be compared with the "Einlappung" of the reindeers in North Eastern Siberia and the catching of elephants such as it occurs in Africa and India, because there the human collaboration is much more evident.

[12] *Ling—Roth*, Natives of Sarawak. p. 444. — *Hose, C.* and *McDougall, W.*, The Pagan Tribes of Borneo. London 1912. p. 149. The deer caller of the Tunguse serves for the same purpose. cf. *Middendorf, A. v.*, Sibirische Reise. St. Petersburg 1867. IV: 2, p. 1930. — Furthermore emu callers of the Australians (Queensland), cf. *Roth*, p. 97.

[13] *Nelson*, Eskimo, p. 132. — *Kraemer, A.*, Die Samoa-Inseln, II. Stuttgart 1903. p. 131 and fig. 39. — *Ling Roth*, Natives of Sarawak. I, p. 444. *Weule, K.*, Mitteilungen aus den deutschen Schutzgebieten. Ergänzungsheft I. Berlin 1908. pl. XXXVI fig. 3, p. 87. — *Tessmann, G.*, Die Pangwe I, Beriln 1913, p. 125.

[14] *Fülleborn, F.,* Das deutsche Njassa- und Ruwuma Gebiet. In: Deutsch-ostafrika, IX. Berlin, p. 526.. pl. 109. fig. 15. — *Tessmann,* Pangwe I, p. 137. *Moszkowski, M.,* Auf neuen Wegen nach Sumatra. Berlin 1909. p. 115. — *Roth, W. E.,* An introd. St. of Arts, Crafts and Customs of the Guyana Indians. Bur. Am. Ethn. 38. ann. rep. 1924. p. 183.

[15] *Radin, P.,* The Winnebago Tribe. Bureau of American Ethnology 37th rep. Washington 1923. pp. 47—560. — cf. *Bogoras, W.,* The Chukchee. Memoir of the American Museum of Natural History. New York 1904/1909. VII, p. 142.

[16] cf. *Rich, A.,* Illustriertes Wörterbuch. p. 647: "Tribulus", "a foot hook, consisting of four strong iron points, which stick out from a similar ball in such way that however it is thrown to the ground, one point always sticks up".

[17] *Lips, J. E.,* Fallensysteme.

[18] cf. *Lips, J. E.,* Fallensysteme. pp. 15—36.

[19] *Bogoras, W.,* The Chukchee. p. 141. *Pfitzenmeyer, E. W.,* Mammutleichen und Urwaldmenschen in Nordost-Sibirien. Leipzig 1926. p. 260.

[20] *Otto, E.,* Planzer- und Jaegerleben auf Sumatra. Berlin 1903. p. 66. — *Maes, A.,* Durch Zentralsumatra. Berlin 1910. — *Hasselt, A. L. v.,* Ethnographische Atlas van Midden-Sumatra. Leyden 1881. p. 58.

[21] *Weule, K., op. cit.,* p. 89. — *Fülleborn, F., op. cit.,* p. 524.

[22] *Lips, J. E.,* Fallensysteme. figs. 32, 43, 45. pp. 64 *seq.*

[23] cf. *Lips,* Fallensysteme. p. 42 *sq.*

[24] cf. *Lips,* Fallensysteme. pp. 52 *sq.*

[25] cf. *ibid.*

[26] I refer here only to the charm used in setting a trap, not to hunting charms in general. cf. the excellent notes of *Speck, F. G.,* Naskapi. University of Oklahoma Press. Norman 1935. Further: *Speck, F. G. and G. G. Heye,* Hunting Charms of the Montagnais and Mistassini Indians. Indian Notes and Monographs. Museum of the American Indian. New York 1921.

[27] *Lips,* Fallensysteme. p. 145 *sq.*

[28] *Middendorf,* Sibirische Reise; *Bogoras,* Chuckchee, p. 143. — *Pfitzenmeyer,* Mammutleichen, p. 269.

[29] *Nelson,* Eskimo. p. 122.

[30] *Dall, W. H.,* Travels on the Yukon Territory in 1866/1868. In: The Yukon Territory. London 1898. pp. 1—242.

[31] *Boas, F.,* The Kwakiutl of Vancouver Island. Memoir of the American Museum of Natural History. New York. V. Leiden, New York 1905/1909. p. 511.

[32] *Morice, F. A. G.,* The great Déné Race. Anthropos 1910. p. 123.

[33] cf. the exhibits and sources in Lips, Fallensysteme. pp. 18 *sq.* and 136 *sq.*

[34] f. i. *Lagercrantz, S.,* Stappan och "Älgstocken". Ymer, Stockholm, 1934. pp. 211—214.

[35] *Boas,* Kwakiutl. p. 508.

[36] *Emmons, G. T.,* The Thaltan Indians. University of Pennsylvania. The Museum. Anthropological Publications. IV: 1. Philadelphia 1911. p. 76.

[37] *Wissler,* Blackfoot Indians. p. 39.

[38] *Radin, P.,* Winnebago. p. 110.

[39] *Capitan, L. H., H. Breuil et D. Peyrony:* La Caverne de Font-de-Gaume. Monaco 1910.

[40] *Capitan, L., H. Breuil* et *D. Peyrony:* Les Combarelles. 1924. p. 90.

[41] *Déchelette, J.,* Manuel d'Archeologie préhistorique celtique et gallo-romaine. Paris 1924. p. 247.

[42] *Lips,* Fallensysteme. p. 132 *sq. Lips,* Paläolithische Fallenzeichnungen.

[43] cf. f. i. *Menghin, O.,* Weltgeschichte der Steinzeit, Wien 1931, and *Kühn, H.,* Kunst und Kultur der Vorzeit Europas. Berlin 1929.

[44] cf. *Boas, F.,* Relations between North-West America and North-East Asia.

[45] *Lindblom, G.,* The Spiked Wheel Trap and its Distribution. Geografiska Annaler 1935, Sven Hedin. Stockholm 1935. pp. 621—233.

[46] ibid, p. 632: "It is yet too early, however, to pronounce any definite opinion on that point. But if it could be proved — and many things speak in favour of it — that the wheel-trap is represented in the rock-carvings of North Africa and the Sahara, the oldest ones of which would at least be of late paleolithic age, this would undoubtedly strengthen the probability of Lips' theory."

[47] *Breuil, H.*, Station de Gravures rupestres d'Aguilet Abderrahman (Sahara Central). L'Anthropologie 1923.

[48] *Lindblom, op. cit.*, p. 627.

[49] *Frobenius, L.*, Kulturgeschichte Afrikas. 1933. fig. 34, pl. 22.

[50] *Lips*, Fallensysteme, fig. 13.

[51] *ibid.*, fig. 96.

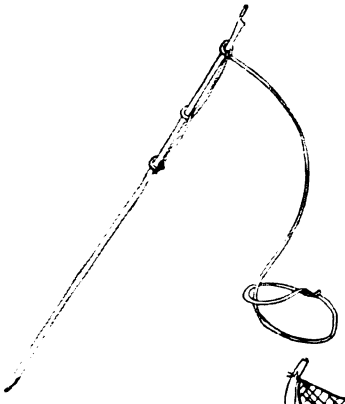

Fig. 1. Simple snare thrown by hand.

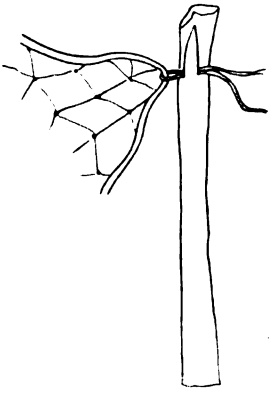

Fig. 2 a. How the net is attached.

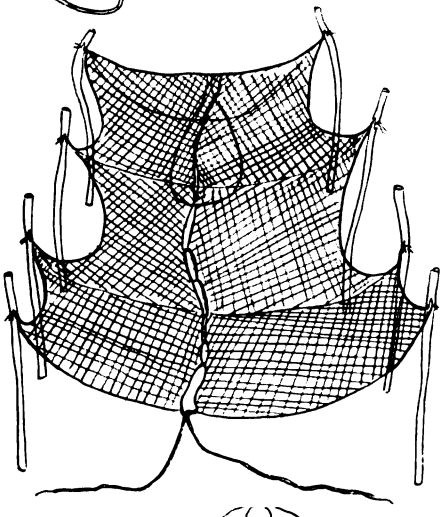

Fig. 2. Fish-net used for catching birds.

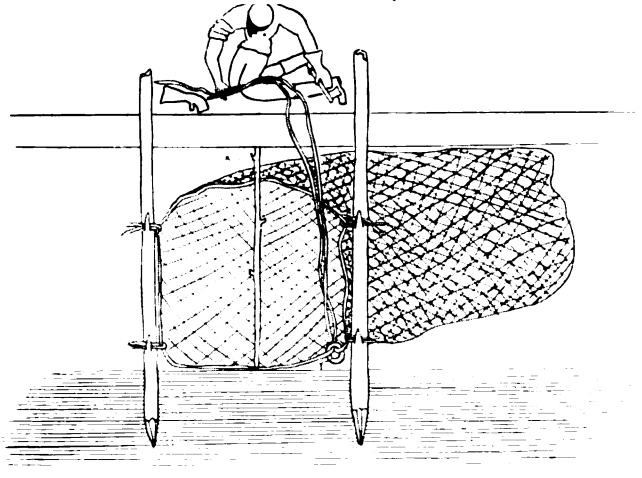

Fig. 3. Beaver net.

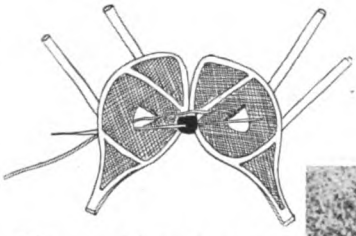

Fig. 4. How to catch the Whisky Jack (before release).

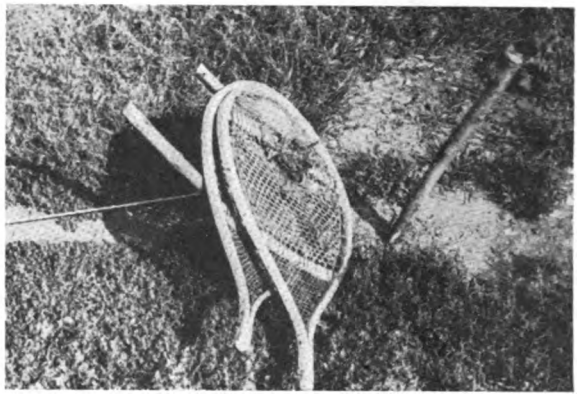

Fig. 4 a. Fig. 4 after release.

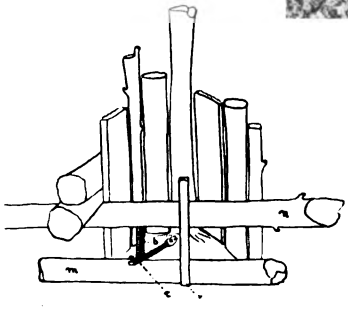

Fig. 5. Gravity-trap of simple construction for mink and marten (before release).

Fig. 6. Fig. 5 after release.

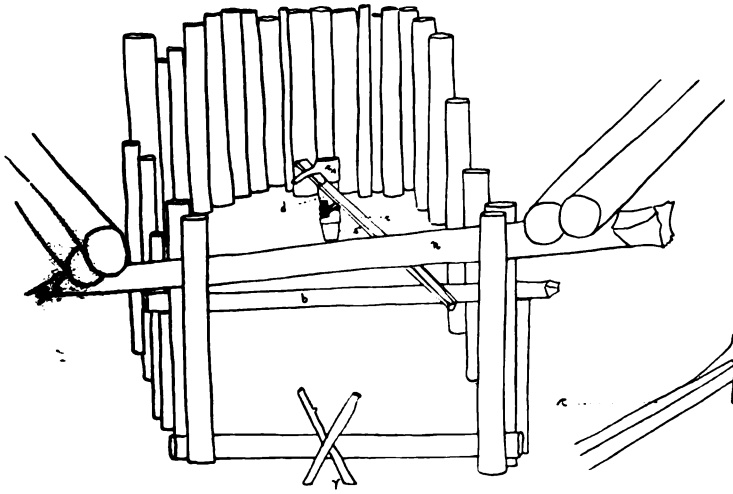

Fig. 7. Gravity-trap for bears.

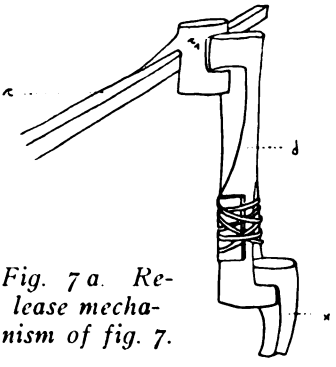

Fig. 7 a. Release mechanism of fig. 7.

Fig. 8. The bear-trap fig. 7 from above

Fig. 9. Gravity-trap for catching bears.

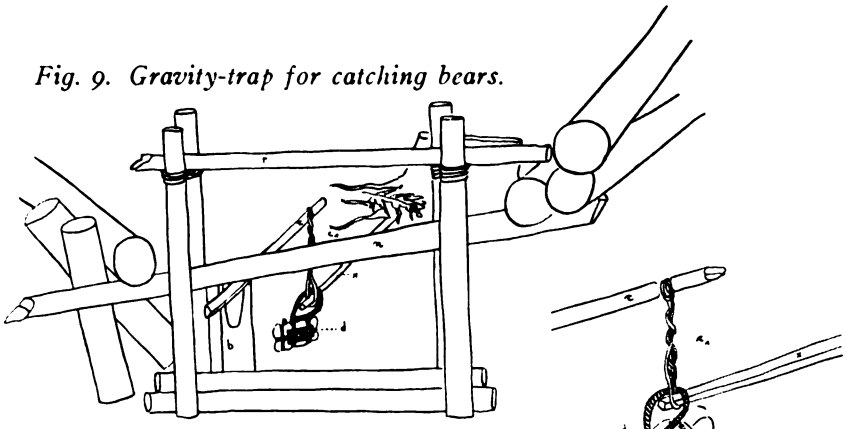

Fig. 9 a. Release mechanism of fig. 9 with the bait package.

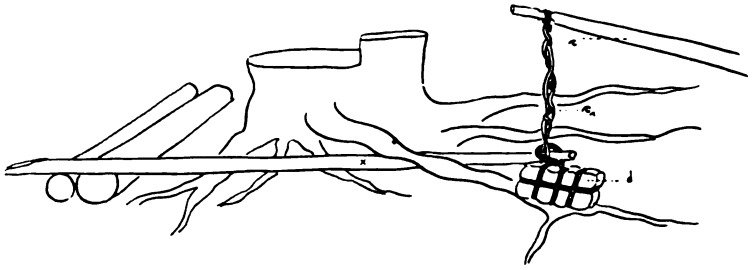

Fig. 10. How the release mechanism of fig. 9 is fixed.

Fig. 11. Fig. 9 after release (side view).

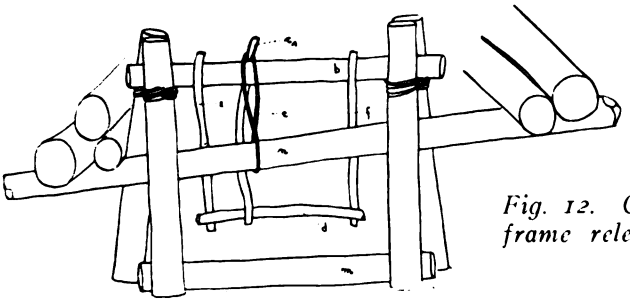

Fig. 12. Gravity trap with frame release for otter and beaver.

Fig. 13. Fig. 12 before release (front view).

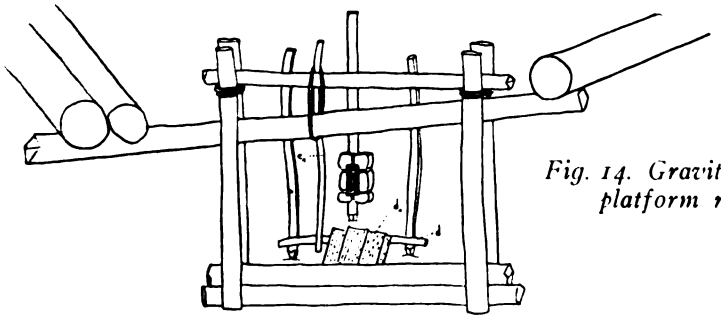

Fig. 14. Gravity trap with platform release.

Fig. 15. Fig. 14 (back view).

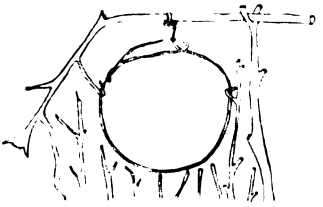

Fig. 16. Simple snare trap.

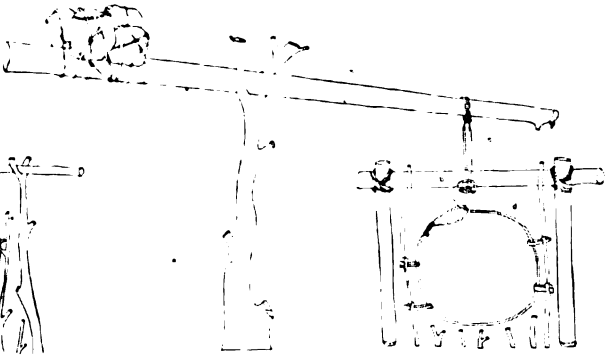

Fig. 17. Snare-gravity-trap for bears.

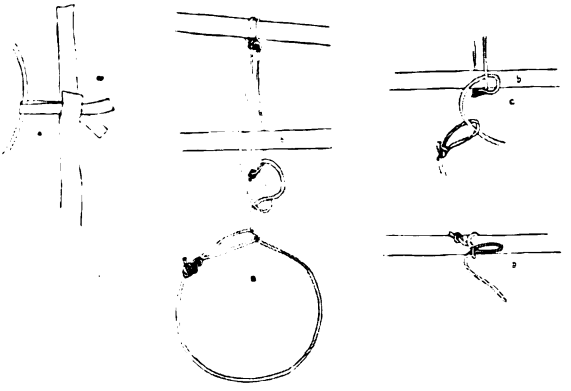

Fig. 18: A. How the snare of fig. 17 is held open. B. How the snare of fig. 17 is made (before b is laid down). C. The snare of fig. 17 after b is laid down. D. The knot of fig. 17, seen from below.

Fig. 19. Fig. 17, built up in the woods.

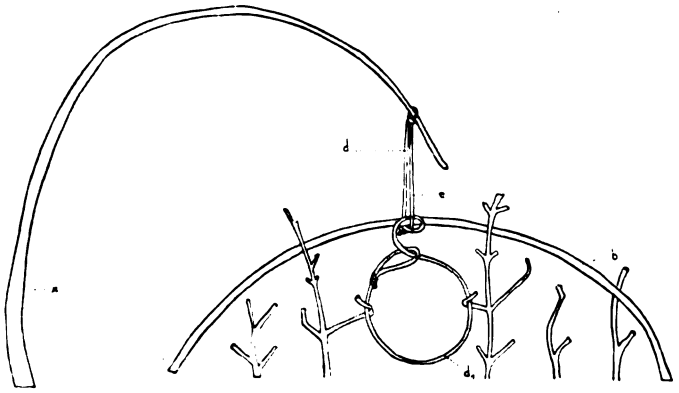

Fig. 20. Springing pole trap for rabbits.

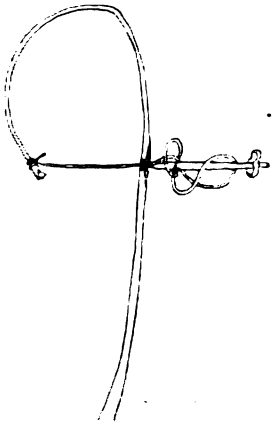

Fig. 22. Springing pole trap to catch the Whisky Jack.

Fig. 21. Fig. 20, built up in the woods.

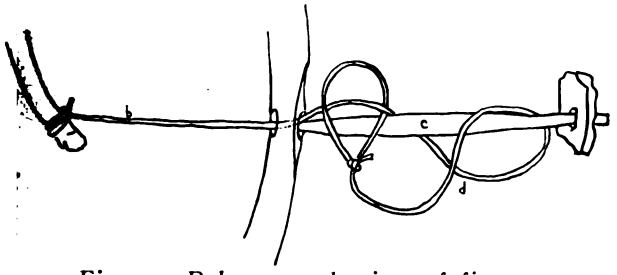

Fig. 23. Release mechanism of fig. 23.

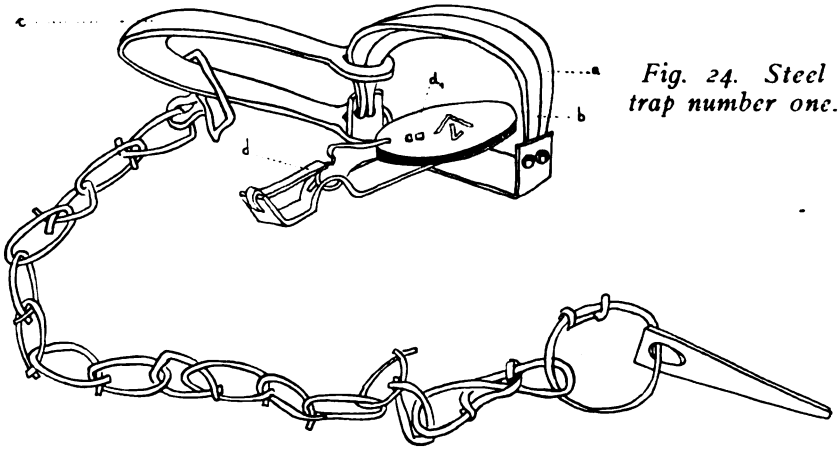

Fig. 24. Steel trap number one.

Fig. 25. Steel trap for catching bears (before release).

Fig. 26. Fig. 25 after release.

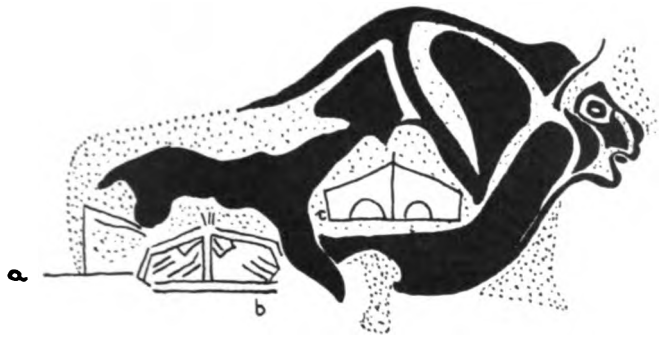

Fig. 27. Drawings of gravity-traps in the cave of Font-de-Gaume.

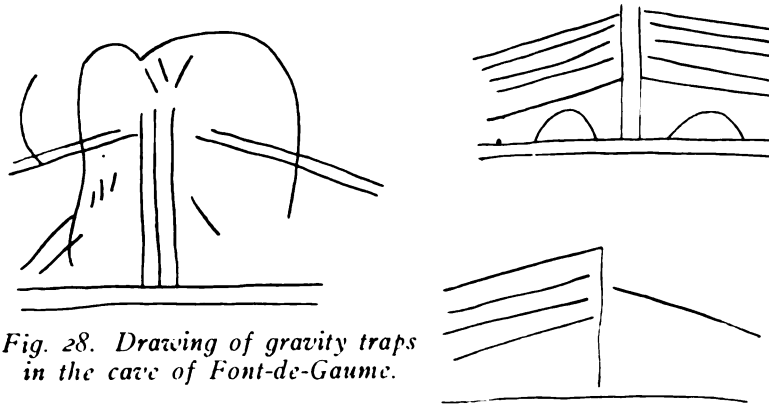

Fig. 28. Drawing of gravity traps in the cave of Font-de-Gaume.

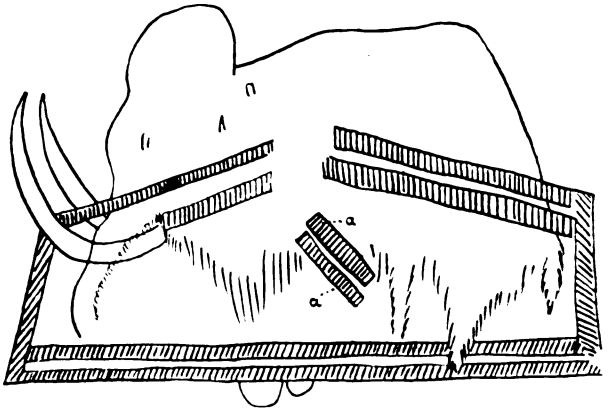

Fig. 29. Mammoth caught in a gravity-trap (Drawing in the cave of Font-de-Gaume).

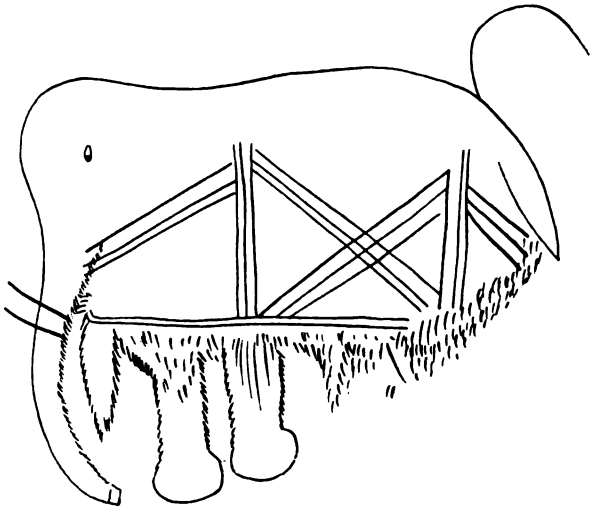

Fig. 30. Mammoth caught in a gravity-trap (Drawing in the cave of Bernifal).

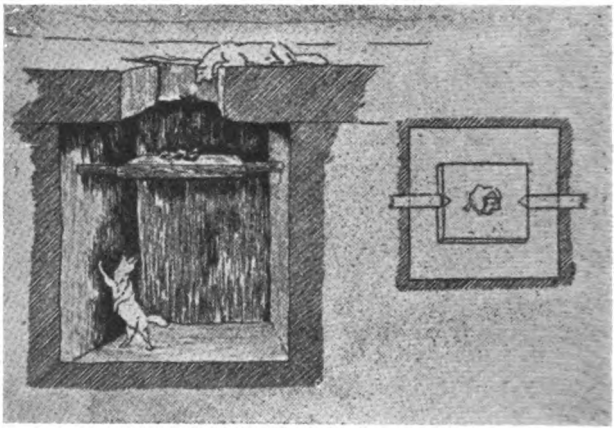

Fig. 31. Ice fox trap from the lower Kolyma.

Fig. 32. Wolf trap of the Yakut-Tungus.